

ZHAVORONKINA, T.X.; FAL'KOVA, O.B.

Using the spectral method in climatology for the determination  
of chlorine. Fiz.sbor. no.4:549-551 '58. (MIRA 12:5)

1. Morskoy gidrofizicheskiy institut AN SSSR.  
(Precipitation (Meteorology)--Analysis) (Chlorine--Spectra)

SOV/49-58-8-7/17

AUTHORS: Bulinskaya, N.A. and Zhavoronkina, T.K.

TITLE: The Origin of Salt in the Atmosphere (O prois-khozhdenii soley v atmosfere)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Geofizicheskaya, 1958, Nr 8, pp 1006 - 1014 (USSR)

ABSTRACT: The distribution of marine salts over the continents is of importance in many connections, e.g. in the transfer of chemical elements from the sea to dry land, in the formation of clouds, etc. The problem was first studied quantitatively by S.V. Dobroklonskiy and P.P. Vavilov in the Black Sea region (Ref 1) and by L.K. Blinov near the Caspian Sea. Their research extended for 200 - 600 m from the seas. L.I. Belyayev (Ref 3) determined the concentration of salts in seawater contained in the atmosphere at several points in the Simeiz-Katsiveli region on the Black Sea. He established that the amount of the salts in the atmosphere depended on the direction and velocity of the wind and the wind height: the maximum appearing during gales. It was also established that the quantity of salts present in the coastal zone depended on the time of year.

Cardl/8 On the initiative of V.V. Shuleykin, this question was

SOV/49-58-8-7/17

The Origin of Salt in the Atmosphere

included in the plan of studies devised by the Morskiy gidrofizicheskiy institut AN SSSR (Marine Hydrophysical Institute Ac.Sc. USSR) in 1948. The first results from these investigations were obtained in 1948-49 (Ref 4). Shuleykin suggested that the mechanism by which the crystals of marine salts were lifted to a height of 2 km and their penetration, together with clouds, etc. into the mainland, could be explained by his theory of monsoon circulation in the atmosphere (Ref 5, p 494).

It is known that gales arising on the coast have their main properties determined by the monsoon component of the circulation, whilst, inland, the main properties depend upon the standing thermobaric waves. Since transfer of salts depends upon the occurrence of gales over the sea, only the monsoon component of circulation need be considered in this problem. This is the basic aim of the paper - the effect of other circulation components is considered in Ref 9.

Twenty-four meteorological stations were chosen, situated along the  $33^{\circ}$  meridian and between latitudes  $52-54^{\circ}$ .

Card2/8

SOV/49-58-8-7/17

## The Origin of Salt in the Atmosphere

The test samples obtained from these stations were analysed for Cl. Recent methods of determining halide contents to  $10^{-2}\%$  (Refs 10-13) were insufficient, since the Cl content in the atmosphere  $\sim 10^{-4} - 10^{-5}\%$ . A spectral method was therefore developed. A spectrograph, type ISP-51, with  $f = 270$  mm was used. A low-voltage spark source was employed - the solution was placed on iron electrodes, clamped horizontally, whilst the positive electrode was made of tungsten. The most suitable Cl lines were at  $\lambda = 4819.5$  and  $4794.5 \text{ \AA}$  (the latter being the more sensitive). A graduation curve was constructed of:

$$\lg \frac{I_{Cl}}{I_0}$$

against  $\lg C$  (where  $I_{Cl}$  is the Cl line intensity and  $I_0$  is the background intensity) (Figure 1).

The quantity of Cl in mg/litre obtained by this analysis was compared with the mass movements of air on synoptic

Card 3/8

SOV/49-58-3-7/17

The Origin of Salt in the Atmosphere

charts for the same days. It was found that, whatever the circulation present, the quantity of Cl always diminished evenly from the coast into the continent of Europe. This indicates that the concentration does not depend upon the daily variations. The results obtained over two years (1951 and 1952) were averaged for the months of January and July and lines of equal Cl concentration were plotted on charts (Figures 2 and 3). Comparison of Figures 2 and 3 indicates that the Cl concentration in atmospheric precipitations during the winter is considerably greater than during the summer. Thus, at the coast, the amount in summer is 1.5 - 2.0 mg/litre, whilst in winter it reaches 3.5 - 4.0 mg/litre - showing a movement inland of the concentration gradient during winter months.

The authors next study the connection between gales and the monsoon component of the atmospheric circulation. They obtained charts from the central forecasting institute for days on which gales occurred over the Black, Azov, Baltic, White or Barents Seas and calculated the directions of the onshore winds (c.f. arrows in Figures 2 and 3). It was

Card4/8

SOV/49-58-8-7/17

The Origin of Salt in the Atmosphere

found that the observed air movements agreed well with the idea of a monsoon component - particularly in winter. It should be noted that the purely zonal component also plays a considerable part in the circulation in this case (e.g. over the Baltic).

Figure 4 shows the days with storms over the Black Sea plotted together with the simultaneous mass transfer to the 700-mb level. Figure 5 is the same graph for the Azov Sea, but this time with a 500-mb level. It can be seen that the onshore storms nearly always coincide with the direction of the winter monsoon, whilst the mass transfer with height has the reverse direction due to the anti-monsoon.

An analysis of Figures 2, 4 and 5 indicates that, in January, marine salts brought into the atmosphere during storms are transported over the mainland by the anti-monsoon component of the circulation at a height of 2-5 km. In July, the salts can be transported over the mainland in a lower layer of the atmosphere, so that precipitation in summer (at a height of 1-5 km) brings down less Cl. Winds blowing from land to sea in winter and from sea to land in summer have for a long time been called monsoon.

Card5/8

The Origin of Salt in the Atmosphere

SOV/49-58-8-7/17

They are believed to be due to unequal heating - Shuleykin has explained them by reference to an atmospheric heat engine. Mass exchange between continent and ocean is the same at the Earth surface as in the upper layers of the troposphere (Ref 5). The question has been further considered by A.M. Gusev (Ref 14), A.A. Dmitriyev (Ref 15) and T.V. Bonchkovskaya (Ref 16). Shuleykin (Ref 5) showed that the monsoon and anti-monsoon occur with a phase difference. The general result found is that the excess air mass over the dry land reaches its maximum in January, whilst there is a deficit in the summer. (This was shown by T.V. Bonchkovskaya and N.L. Byzova (Ref 17)). A chart of the distributions of the transported air masses is given in Ref 17 or Ref 5.

Figure 6 (taken from Ref 16) shows (continuous arrows) the outflow of air masses from the continent to the ocean during January to July and (dotted arrows) the inflow from July to January. In both cases, the transfer at the surface is less than the reverse flow above.

The results obtained indicate that: a) the monsoon

Card6/8

The Origin of Salt in the Atmosphere SOV/49-58-8-7/17

circulation forms an important part of the atmospheric circulation during coastal storms, since it determines the direction and velocity of the winds and b) the transfer of air masses from sea to land and back again, which was first suggested in this form by V.V. Shuleykin, determines the amount of salts in the atmosphere.

Figure 7 shows the air movements (arrows), clouds (lettered) and precipitation (vertical shading) of a warm front (after Krichak (Ref 18)). If this front approaches a coastal zone, conditions are favourable for a strengthening of the wind at the Earth surface (a winter monsoon) and the formation of an anti-monsoon (dotted arrows in Figure 7) above. A storm at the surface increases the mixing of sea spray, etc. with the atmosphere and the crystals of salts are taken up to the condensation level (as shown by the continuous arrows). During the summer, the monsoon circulation hinders the crystals from rising to the condensation level (since the monsoon blows from sea to land at the surface, whilst the anti-monsoon, higher up, blows from land to sea).

Card7/8

The Origin of Salt in the Atmosphere

SOV/49-58-8-7/17

The authors hope that when data is gathered over a wide area for several years, it may be possible to define the 'rain-probability' of a given front from the amount of marine salts, i.e. condensation nuclei, in it. There are 7 figures and 18 Soviet references.

ASSOCIATION: Akademiya nauk SSSR Morskoy gidrofizicheskii institut  
(Ac.Sc.USSR, Marine Hydrophysical Institute)

SUBMITTED: March 12, 1957

1. Atmosphere--Chemical analysis 2. Sodium chloride--Determination

Card 8/8

AUTHOR: Zhavoronkina, T. K.

SOV/50-58-9-4/19

TITLE: On the Chemical Composition of Atmospheric Precipitations  
(O khimicheskem sostave atmosfernykh esadkov)

PERIODICAL: Meteorologiya i gidrologiya, 1958, Nr 9, pp. 22-24 (USSR)

ABSTRACT: Since long experts have been dealing with the problem of the transport of salts from the sea to the mainland by air currents. In connection with this phenomenon more and more the reason for condensed nuclei is searched in the atmosphere, the oversalting of some inland lakes and mainland regions and finally the source of soluble salts in the soil. The ocean, seas and lakes bordering the ocean are a source of enormous quantities of salt which are caused by precipitation. Since there is still a lack of informations on the seasonal content of salts in the air and of sufficiently complete observations on their entering the atmosphere the mentioned area has remained still little investigated. From publications (Refs 3-5) the author draws the conclusion that the available methods of chemical analysis cannot be used for this purpose.

Card 1/4

On the Chemical Composition of Atmospheric Precipita- SOV/50-58-9-4/19  
tions

She made therefore, an attempt to apply spectrum analysis. On the occasion of the X soveshchaniye po spektroskopii in L'vov (X. Conference on Spectroscopy in L'vov) the author reported on the elaborated method. Since this is a very sensitive method it is possible to analyze also small amounts of substances. The relative deviations are between 1 and 10%. A further advantage is the rapidity of determinations. Table 1 shows the results of determination and seasonal fluctuation of the chloride and sodium content in the years 1951/52. During winter and summer the highest concentration of salts is registered in precipitations near the coast. Further inland this concentration decreases. This phenomenon points to the fact that the seas are salt suppliers to the atmosphere. In order to prove that the seasonal deviation is not a chance deviation a computation according to the formula

Card 2/4

On the Chemical Composition of Atmospheric  
Precipitations

SOV/50-58-9-4/19

$$m = \frac{\Delta \sigma_{Cl}}{\sqrt{\sigma_w^2 + \sigma_s^2}}$$

was carried out,

$\Delta \sigma_{Cl}$  denotes the difference of concentration values of chlorine in individual seasons,  $\sigma_w$  and  $\sigma_s$  are the mean square deviations in winter and summer, respectively. Table 2 shows that the poorest results were obtained in the stations Simferopol' and Ryazhsk ( $m < 2$ ) which had only few samples. The stations with a large number of samples delivered good results. The content of chlorides is smaller in winter than in summer. This phenomenon is related with storms and with an intensive atmospheric circulation. The author confirmed the relation mentioned in reference 1 dealing with the transport of salts over the coastal area by storms. V.V.Shuleykin, A.A.Dmitriyev and N.A.Bulinskaya contributed with precious information material and advices. There are 1 figure, 1 table, and

Card 3/4

On the Chemical Composition of Atmospheric  
Precipitations

SOV/50-58-9-4/19

5 references, all of which are Soviet.

Card 4/4

ZHAVORONKINA, T.K.

Analyzing the chemical composition of atmospheric precipitation  
from a climatological standpoint. Trudy MGI 15:136-145 '59.  
(MIRA 12:6)  
(Precipitation (Meteorology))

ZHAVORONKINA, T. K.

Cand Geog Sci - (diss) "Study of the distribution of salts transferred from the ocean to continents by air currents in atmospheric precipitation." Moscow, 1960. 13 pp with diagrams; (Ocean Hydrophysical Inst of the Academy of Sciences USSR); number of copies not given; price not given; list of author's works on p 13 (11 entries); (KL, 7-61 sup, 223)

ZHAVORONKINA, T.K.

Using the spectrographic method to determine a series of trace elements in sea water. Trudy MGU 19:38-41 '60. (MIRA 14#) (Sea water—Analysis) (Trace elements) (Spectrum analysis)

ZHAVORONKINA, T.K.; SKOPINTSEV, B.A.; KLIMOV, I.T.

Chemical and spectral methods for determining trace element  
series in seawaters. Okeanologiya 4 no.2:205-212 '64.

(MIRA 17:5)

1. Morskoy gidrofizicheskiy institut AN UkrSSR.

ZHAVORONKINA, V. K.

21965 PYZHEVICH, L.M. i ZHAVORONKINA, V. K. Voprosy teorii tormozheniya vagonov  
~~metropolitena~~ metropolitena i i Systaniya Tormoznykh Kolodok. Trudy Mosk.  
elektronmekhan. in-ta inzhenerov zh.-d. Transporta im. Dzerzhinskogo: vyp. s7,  
1949, s. 333-90

SO: Letoys'Zhurnal'nykh Statey, No. 22, Moskva, 1949.

ZHAVORONKINA, V.K.

Controlling factor in the corrosion process of concrete reinforcements.

Trudy MGI 10:94-105 '57.

(MIRA 11:3)

(Reinforced concrete--Corrosion)

ZHAVORONKINA, V.K.

Corrosion study of concrete reinforcements in sea water. Trudy MGI  
(MIRA 11:3)  
10:106-118 '57.  
(Reinforced concrete--Corrosion)

ZHAVORONKINA, V.K.

Corrosion zones in concrete reinforcements in sea water. Trudy  
MGI 11:112-117 '57. (MIRA 11:3)  
(Reinforced concrete--Corrosion)  
(Sea water)

ZHAVORONKINA, V.K.

3(7)

PHASE I BOOK EXTRCTIONS SOW/2131

Akademija Nauk SSSR. Novosibirskij Geofizikal'nyj Institut

Vestnik Nauk. Naučn. soveta (Morskij Regime of the Sea. Chemistry  
of the Sea) Novosibirsk 1958. 145 p. (Series 1, no. 19).  
Vol. 13) Berlin, 1959. Inserted. 1,300 copies printed.Reed, M. I., A.O. Kolesnikov, Doctor of Physical and Mathematical  
Sciences; M. M. Pashkin, Doctor of Technical Sciences; Tech. Ed.:  
N.P. Tropinova.PURPOSE: This collection of articles is intended for hydrologists,  
hydrogeologists, and oceanographers.CONTENTS: These articles deal with problems in the physics and chemistry  
of sea water. Individual papers treat the turbulent thermal  
conductivity and heat exchange in sea water, the circulation of air  
over the sea, the salinity of the Black Sea, the determination of  
salinity, magnesium, and copper in sea water, and the determination  
of calcium in atmospheric precipitates. Figures, tables, and graphs  
accompany the articles. There are 121 references; 92 Soviet, 18  
American, 8 German, 2 French, and 1 Hungarian.TOPICS: Hydrodynamic Liquid Exchange Between Two Reservoirs  
Walls of Different Temperatures

Zhdanov, N.M., V.A. Oulin', V.V. Vorob'ev, and O.A. Verbitskina.

Main Components in the Salt Composition of Black Sea Water and  
Problems of Water Circulation

89

Zhdanov, N.M. A Study of the Composition of Suspended Sub-  
stances and Detritus Organic Compounds in the Azov and Black Seas 113Zhdanov, N.M. and V.V. Vorob'ev. An Integrated Method for  
Determining Calcium and Magnesium in Sea Waters 120Zhdanov, N.M. and V.K. Zhavoronkina. The Problem of Determining  
Copper in Sea Water 137Zhavoronkina, V.K. and V.K. Zhavoronkina. Determination of  
Sodium in Air Precipitates by the Spectral Method 143

APPROVING: Library of Congress

8-11-59 (1)

ZHAVORONKINA, V.K.

The new polarographs of the Czechoslovak Academy of Sciences.  
Trudy MGI 16:161-166 '59. (MIRA 13:5)  
(Czechoslovakia--Polarography)

DMITRIYEV, A.A.; ZHAVORONKINA, V.K.

Scientific mission to the Ondrejov Observatory of the Czechoslovakian Academy of Sciences in 1957. Astron.sbor no.3/4:51-56 '60.  
(MIRA 14:11)

1. Morskoy gidrofizicheskiy institut AN SSSR.  
(Ondrejov, Czechoslovakia—Astronomical observatories)

TIKHONOV, M.K.; ZHAVORONKINA, V.K.

Polarographic method for copper determination in sea water. Trudy  
MGI 19:31-37 '60.  
(Sea water—Analysis) (Polarography) (Copper)

SKOPINTSEV, B.A.; ZHAVORONKINA, V.K.

Results of the determination of dissolved oxygen in waters of the  
subtropical and tropical regions of the North Atlantic during  
August-October 1959. Trudy MGI 25:118-129 '62. (MIRA 15:2)  
(Atlantic Ocean--Sea water--Oxygen content)

ZHAVORONKO, N.M.; ROMANKO, P.G.

Basic trends of the scientific studies in the field of mass  
transfer processes of chemical technology. Khim. prom. 41  
no.2:1-4 F '65. (MIRA 18:4)

ZHAVORONKO, O. I.

Role of individual peculiarities of pupils in the formation of their collectivistic interrelations under boarding school conditions. Nauk. zap. Nauk.-dosl. inst. psichol. 11:248-252 '59. (MIRA 13:11)

1. Institut psichologii, Kiyev.  
(Communist ethics)

ZHAVORONKO, O. I.

Concerning the formation among fifth-grade pupils of a responsible attitude toward their duties. Nauk.zap.Nauk.-dosl.inst.psychol.  
10:159-193 '59. (MIRA 13:5)

(School discipline)

SOLODENKO, G.P., inzh.; SAPOV, P.M., inzh.; ZHAVORONKO, P.I., inzh.;  
KOCHEKA, V.T., inzh.

Mechanization of assembly and welding operations at the Rostov-on-  
Don Agricultural Machinery Plant. Svar.proizv. no.6:22-24 Je  
'60.

(MIRA 13:7)

(Rostov-on-Don--Agricultural machinery industry)  
(Agricultural machinery--Welding)

30818. ZHAVORONKOV, A.

Za kachestvo i snizheniye stoimosti remonta kholodil'nykh mashin.  
Kholodil. tekhnika, 1949, No. 3, s. 45-48.

ZHAVORONKOV, A.

Not only in production, but in life as well. Zhil.-kom.khoz. 11  
no.5:5 My '61. (MIRA 14:7)

1. Zaveduyushchiy otdelom obkoma profsoyuza rabochikh mestnoy  
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(Leningrad—Socialist competition)

ZHAVORONKOV, A.A., kand.med.nauk

Expediency of using heparin in poisoning with snake venom. Sov.med.  
28 no.4:121-124 Ap '65. (MIRA 18:6)

1. Laboratoriya geograficheskoy patologii Instituta morfologii  
cheloveka (dir. - chlen-korrespondent AMN SSSR prof. A.P.Avtayev)  
AMN SSSR, Mskva.

SMIRNOV, V.P.; ZHAVORONKOV, A.A. (Moskva)

Conference of the Institute of Human Morphology of the Academy of Medical Sciences of the U.S.S.R. and the plenum of the All-Union Society of Pathoanatomists dedicated to problems of geographical pathology. Vest. AMN SSSR 19 no.12:93-95 '64.

(MIRA 18:4)

ZHAVORONKOV, A.A.

Pathomorphological characteristics of experimentally induced intoxication from viper venom (Vipera lebetina). Zdrav. Tadzh. 7 no.4:53-56 Jl-Ag '60. (MIRA 13:9)

(VENOM-PHYSIOLOGICAL EFFECT)

ZHAVORONKOV, A.A.; RASULOV, Kh.A. (Moskva)

Foreign body retained in the lungs for a period of 20 years.  
Arkh. pat. 27 no.6:79-81 '65. (MIRA 19:1)

1. Laboratoriya geograficheskoy patologii Instituta morfologii cheloveka (direktor - deyствител'nyy chlen AMN SSSR prof. A.P. Avt'syn) AMN SSSR I Respublikanskaya klinicheskaya tuberkuleznaya bol'nitsa No.1 (glavnyy vrach Kh.A. Rasulov). Submitted March 4, 1964.

ZHAVORONKOV, A. A. (Dushanbe)

Alveolar echinococcosis of the liver. Arkh. pat. no. 6:75-77  
'62. (MIRA 15:7)

1. Iz kafedry patologicheskoy anatomi (zav. - prof. B. I. Monastyrskaya) Tadzhikskogo gosudarstvennogo meditsinskogo instituta imeni Avitsemy i patologoanatomiceskogo otdeleniya (zav. A. A. Zhavoronkov) Respublikanskoy klinicheskoy tuberkuleznoy bol'niцы (glavnnyy vrach Kh. A. Rasulov)

(LIVER—HYDATIDS)

USSR/Human and Animal Morphology. Pathological Anatomy

S-5

Abs Jour : Ref Zhur - Biol., No 20, 1958, No 92882

Author : Zhavoronkov A.A.

Inst : Stalinabad Medical Institute

Title : Pathological and Morphological Characteristics of Experimental Injury of the Rabbit with Gherza Venom (Preliminary Report)

Orig Pub : Sb. tr. Byuro gl. sudebnoved. ekspertizy i Kafedr sudebn. med. i patol. anatomii Stalinabadsk. med. in-ta, 1956, vyp. 5, 143-148

Abstract : A study was made of 11 rabbits which were injected internally with lethal doses of venom (0.07 - 0.6 mg/kg). Nine of them died within 3-6 minutes, and two survived and were sacrificed in 96 hours. The onset of death was accompanied by symptoms of respiratory arrest with preliminary loss of muscle tone and clonic convulsions. Autopsy revealed plethora of the internal organs and hemorrhage in the serous membranes, excluding the abdomen. Histological examination of all the organs

Card : 1/2

15

USSR/Human and Animal Morphology. Pathological Anatomy  
APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002064610011-0"

Abs Jour : Ref Zhur - Biol., No 20, 1958, No 92882

revealed plethora, stasis, and thrombi of the vessels, focal hemorrhages, and tissues infiltrated with blood. Contraction of the lumen of the bronchi and plication of their walls were noted. Sublethal doses of the venom were injected subcutaneously into 8 rabbits; they were sacrificed at different periods. Within 10-11 hours the skin at the site of the injection ulcerated. Edema of the cutaneous tissue spread widely, involving the surrounding tissue. The histological examination revealed necrosis of the tissues and vessels, multiple thrombi, and hemorrhages. The examination showed that gherza venom, like that of the other adders, possesses primarily a hemorrhagic and coagulating property. -- I.I. Finkel'

Card : 2/2

ZHAVORONKOV, A. A., inzh.

Insulating foundations of vibrators. Transp. stroi. 13 no.4:  
63-64 Ap '63. (MIRA 16:4)

(Vibrators—Foundations)

ACC NR. AP0021456

SOURCE COV&I

INVENTOR: Rapoport, M. B.; Seliverstov, B. P.; Chervonskiy, M. I.; Gurevich, B. L.; Malinskiy, S. A.; Veksler, B. Ye.; Aysman, Yu. A.; Remennikov, V. S.; Zhavoronkov, G. A.

ORG: None

TITLE: A device for automatically analyzing seismograms and constructing seismic profiles. Class 42, No. 182349

SOURCE: Izobreteniya, promyshlennyye obraitsy, tovarnyye znaki, no. 11, 1966, 79

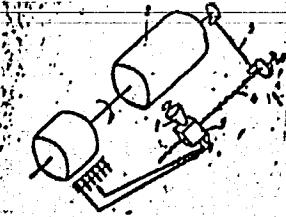
TOPIC TAGS: seismography, cathode ray tube, seismic modeling

ABSTRACT: This Author's Certificate introduces: 1. A device for automatically analyzing seismograms and constructing seismic profiles. The unit is based on Author's Certificate No. 166503. Efficiency of analysis is improved by mounting a cathode ray tube on a carriage which is moved along a photodrum by a worm gear or ratchet turned by the shaft of the photodrum. 2. A modification of this device in which measurement quality is improved by connecting a sawtooth generator through a programmed amplitude regulator to the vertical deflection system of the cathode ray tube.

UDC: 550.340.84

Card 1/2

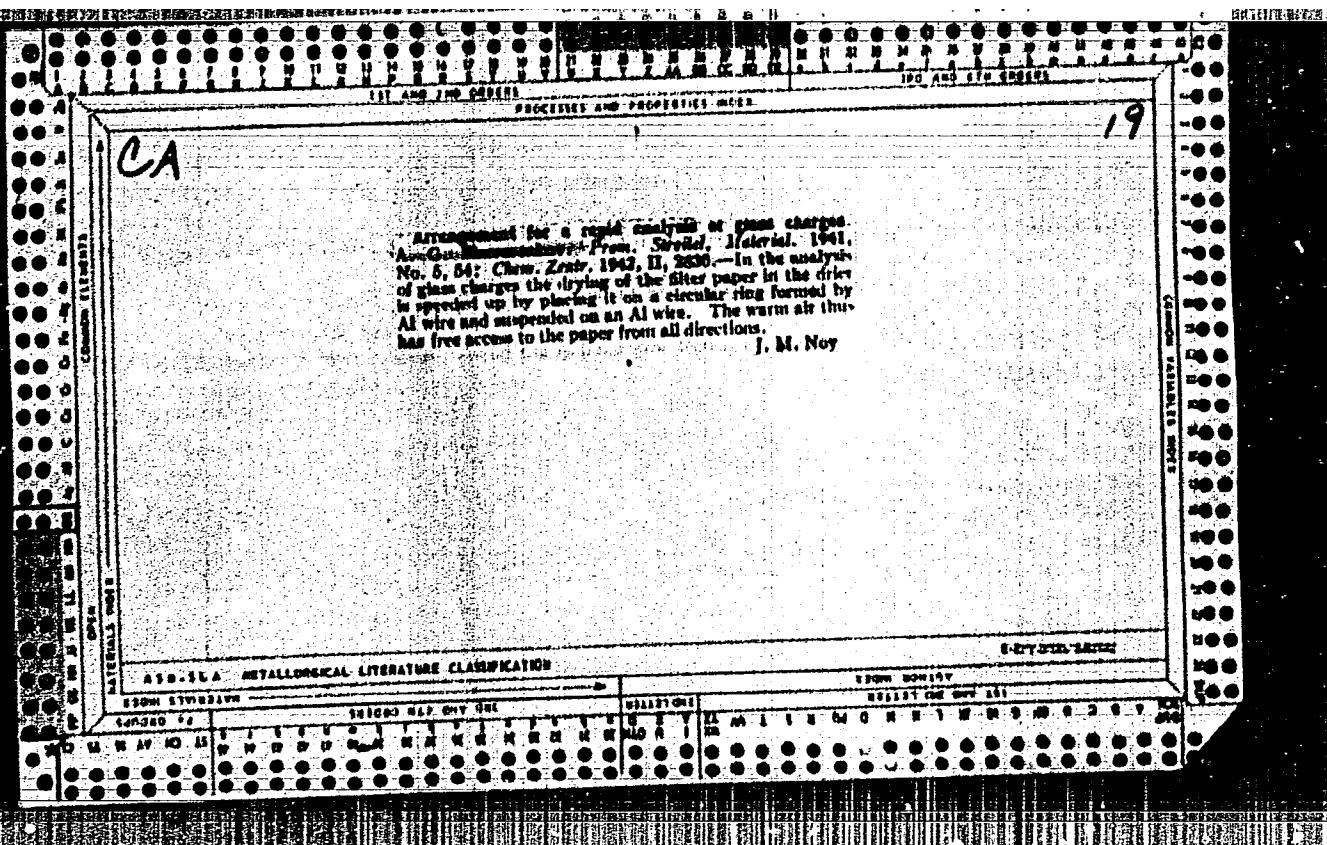
ACC NR: AP6021400



1---cathode ray tube; 2---  
photodrum; 3---carriage;  
4---worm shaft; 5---drive

SUB CODE: 08, 09/ SUBM DATE: 31Mar64

Card: 2/2



ZHAVORONKOV, I.I.

Machinery and equipment used in sugar beet growing (from "Agricultural Machinery Journal, v.12,no.6, 1958) Trakt. i sel'khozmash. no.11:46 N '59. (MIRA 13:3)

(Sugar beets) (Agricultural machinery)

ZHAVORONKOV, I., brigadir formovshchikov.

Teach your comrades and learn from them. Stroi.met.3 no.2:25-26  
P '57. (MLRA 10:3)

1. Zavod no.5. Glavmoszhlezobetona.  
(Concrete construction--Formwork)

ZHAVORONKOV, I.I. [translator]; NEMUKHIN, V.P. [translator]; GRAMP, A.N.  
[translator]; SHTEYNEBERG, A.D. [translator]; MADMIEVA, R.I.  
[translator]; KARPUSHINA, I.M. [translator]; PEYSAKHZON, B.E.,  
kand.tekhn.nauk, otv.red.; VERINA, G.P., tekhn.red.

[World railroads; survey of the operation and equipment of  
railroads throughout the world] Zheleznye dorogi mira; obzor  
ekspluatatsionnoi raboty i tekhnicheskogo osnashcheniya  
zheleznykh dorog mira. Moskva, Gos.transp.zhel-dor.izd-vo,  
1959. 587 p. (MIRA 13:2)

(Railroads)

ZHAVORONKOV, I.I.

Track on high-speed traffic sections (from "Monthly Bulletin of  
the International Railway Congress Association"), Put' i put.khoz.  
no.7:46-48 '62. (MIRA 15:7)

(Railroads—Track)

PRONINA, R.F., prepodavatel'; BEGUN, A.I., prepodavatel'; VOLKOVA, N.S.,  
prepodavatel'; MOSHCHUK, Ye.I., prepodavatel'; FUKS, Ye.A.,  
prepodavatel'; KHOLOCHEVA, A.S., prepodavatel'; CHERNUKHIN, A.Ye.,  
red.; ZHAVORONKOV, I.I., red.; KHITROV, P.A., tekhn.red.

[English-Russian railroad dictionary] Anglo-russkii zhelesno-  
doroznyi slovar'. Pod red. A.E. Chernukhina. Moskva, Gos. transp.  
zhel-dor. izd-vo, 1958. 662 p. (MIRA 12:2)

1.Kafedra inostrannykh yazykov Moskovskogo instituta inshenerov zhelesno-  
dorozhnogo transporta (for Pronina, Begun, Volkova, Moshchuk, Fuchs,  
Kholcheva).

(English language--Dictionaries--Russian)  
(Railroads--Dictionaries)

SULIMA-SAMUILLO, A.P., prepodavatel'; KROT-KRIVAL', I.S., prepodavatel'; KOVROVTSEVA, Ya.G., prepodavatel'; KOVALEVA, I.S., prepodavatel'; BUGROVA, O.G., prepodavatel'; LEVENTO, T.Ya., prepodavatel'; PROKHOROV, V.F., red.; ZHAVCRONKOV, I.I., red.; KHITROV, P.A., tekhn.red.

[German-Russian railroad dictionary] Nemetsko-russkii zhelezno-dorozhnyi slovar'. Sost. A.P. Sulima-Samuillo i dr. Pod red. V.F. Prokhorova. Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei soobshcheniya, 1960. 536 p.

(MIRA 14:4)

1. Kafedraиноstrannikh yazykov Moskovskogo instituta inzhenerov zheleznodorozhnogo transporta (for Sulima-Samuillo, Krot-Krival', Kovrovtsseva, Kovaleva, Bugrova, Levento)  
(Railroads--Dictionaries)  
(German language--Dictionaries--Russian)

ZHAYORONKOV, I.I.

Machine for harvesting potatoes and beets (from "Schlepper und Landmaschine", August, 1959). Trakt. i sel'khozmash. 30 no.7:45 Jl'60.  
(Germany, East--Potato digger (Machine))  
(MIRA 13:10)

ZHAVORONKOV, I.I.

Snow removal troughs on Japanese railroads (from "Japanese Railway Engineering," March 1961). Put' i put.khoz. 6 no.2;47-48 '62. (MIRA 15:2)

(Japan—Railroads—Snow protection and removal)

VORONIN, A.V.; ZHAVORONKOV, I.Ya.

Selection of the best voltage for a.c. traction systems.  
Elektrichestvo no.4:1-5 Ap '61. (MIRA 14:8)

1. Gosudarstvennyy nauchno-tehnicheskiy komitet Soveta  
Ministrov SSSR.  
(Electric railroads--Current supply)

YEFREMOVA, L.A., zasluzhenny master sporta; ZAK, M.G.; RAKITINA, R.I.,  
starshiy metodist; ZABAROVSKIY, K.K.; GOL'BERG, A.Ya.; KAZAKOV,  
M.B.; ZHAVORONKOV, I.Ye. (Kerch'); KLYUCHAREVA, I.R. (Moskva);  
BELAYA, N.A., kand.med.nauk; POPOV, B.F., artist

We continue the discussion of the power of physical culture.  
(MIRA 15:8)  
Zaporov'e 8 no.8:26-28 Ag '62.

1. Zamestitel' glavnogo vracha 2-go Moskovskogo vrachetno-fizkul'-turnogo dispansera (for Yefremova).
2. Glavnyy vrach Oblastnogo vrachetno-fizkul'turnogo dispansera, Rostov-na-Donu (for Zak).
3. Respublikanskiy vrachetno-fizkul'turnyy dispanser, Kiyev (for Rakitina).
4. Glavnyy vrach Respublikanskogo vrachetno-fizkul'turnogo dispansera, Minsk (for Zabarovskiy).
5. Zaveduyushchiy kabinetom lechebnoy fizkul'tury Respublikanskogo vrachetno-fizkul'turnogo dispansera, Minsk (for Gol'berg).
6. Glavnyy vrach Gorodskogo vrachetno-fizkul'turnogo dispansera, Sverdlovsk (for Kazakov).
7. Gosudarstvennyy Akademicheskiy Malyy teat (for Popov).

(PHYSICAL EDUCATION AND TRAINING)

GUHKO, I.T., NIKOLAYEV, A.M., ZHAVORONKOV, L.N. RUBTSOVA, L. P.

In response to resolutions of the July Plenum of the Central  
Committee of the CPSU. Ogneupory 25 no.11:490-491 '60.  
(MIRA 13:12)

1. Pervoural'skiy dinasovyy zavod.  
(Pervoural'sk—Firebrick)

N 1.9515-66  
ACC NR. AP5028406

SOURCE CODE: UR/0229/65/000/010/0910/0012

9  
B

AUTHOR: Sokolov, V. F., Zhavoronkov, L. V.

ORG: none

TITLE: Attachment for increasing the effectiveness of water screws

SOURCE: Sudostroyeniye, no. 10, 1965, 10-12

TOPIC TAGS: water screw, ship component, tugboat, pusher towboat

ABSTRACT: An attachment for increasing the effectiveness of propellers (see Fig. 1) consists of a nozzle with an adjustable orifice. It contains a hinged baffle plate which can be adjusted to the desired position by means of a turn mechanism, inside a sealed box, consisting of a sector and a gear operated from the wheelhouse. The attachment is designed to eliminate the overloading or underloading of marine engines. Utilizing the effect of the water outflow section's size on the output of the main engine, a propeller matched to the main engine (according to the mooring pulling test), and a nominal water outflow, the maintenance of the nominal parameters of the power plant while towing or pushing in formation can be assured for any resistance, water depth, or speed. At 8 km/hr a pusher-tugboat showed an 8.5% increase in power output, or 15% with a reduced water-outflow section ( $0.321$  to  $0.283 \text{ m}^2$  or  $0.283$  to  $0.250 \text{ m}^2$ , respectively). Compared to a conventional vessel, 150-hp (a 1350 rpm) pusher-tugboat ( $L \times B \times H = 16.0 \times 3.7 \times 1.3 \text{ m}^3$ ) equipped with an adjustable water out-

UDC: 629.035.2

Card 1/3

T. 9515-66

ACC NR: AP5028406

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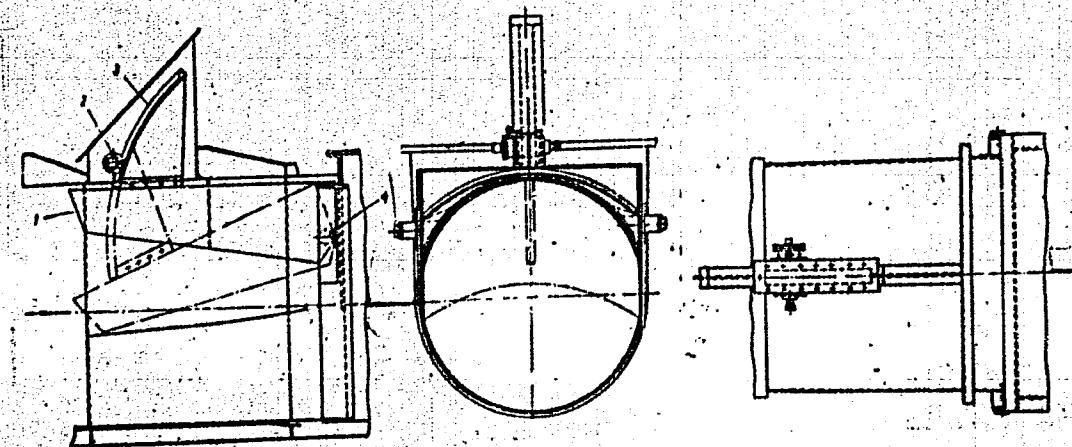


Fig. 1. Outlet with adjustable end opening

1 - Baffle plate; 2 - gear; 3 - sector; 4 - hinge.

Card 2/3

I 9515-66  
ACC NR: AP5028406

flow section, displayed a specific pull increased from 8.1 to 9.55 kg/hp when operating in formation, a speed increased from 16.45 to 17.45 km/hr when running unloaded, and a specific pull increased from 10.8 to 12.5 kg/hp in a mooring pulling test. For tug-boats with the most favorable propeller diameter, the adjustable end opening also assures the immediate intake of water while starting. Orig. art. has: 1 figure and 1 table. [CE]

SUB CODE: 181 SUBM DATE: none/ ATD PRESS: 4150

QC  
Card 3/3

KUZNETSOV, Petr Vasil'yevich; ZHAVORONKOV, N.A., red.

[Increase in the nominal disconnecting power of oil-filled switches] Uvelichenie nominal'noi moshchnosti otkliucheniia maslianykh vykliuchatelei. Izd.2., perer. i dop. Moskva, Izd-vo "Energiia," 1964. 319 p. (MIRA 18:1)

DOROGOCHINSKIY, A.Z.; ZHAVORONKOV, M.N.

Outstanding scientist chemist-petroleum engineer K.V.Kharichkov.  
Izv. vys. ucheb. zay.; neft' i gaz 8 no.4:115-117 '65. (MIRA 18:5)

1. Groznenskiy neftyanoy institut i Grcznenskiy neftyanyoy nauchno-  
issledovatel'skiy institut.

ZHAVORONKOV, M.S.

Accurate decimal scales for matching and testing the riders of  
hydrostatic scales. Izm.tekh. no.1:69-70 Ja-F '56. (MLRA 9:5)  
(Scales (Weighing instruments)--Testing)

ZHAYORONKOV, M. M.

780

Mass exchange in the flow separation process

Another method of calculating the head loss is to use the Hazen Williams formula. This formula is based on the assumption that the friction factor is proportional to the head loss. The formula is:

卷之二

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R002064610011-0"

Zhavoronkov, M.S.

USSR/General Problems - Method and Technique of Investigation

A-4

Abst' Journal : Referat Zhur - Fizika, No 12, 1956, 33682

Author : Zhavoronkov, M. S.

Institution : None

Title : Accurate Decimal Weights for the Trimming and Verification of  
Riders of Hydrostatic Balances

Original Periodical : Izmerit. Tekhnika, 1956, No 1, 69-70

Abstract : The balance proposed consists of an unequal-arm rocker beam  
with an arm ratio of 1:10. This balance is suitable for use  
in a plant that manufactures hydrostatic balances in which  
there is a mass testing of the sets of riders.

Card 1/1

AGAFONOV, S.L.; ALEKSEYEVA, A.N.; BELYUSTINA, L.N.; GOLOV, I.I.;  
GUSEV, O.V.; DMITRIYEV, V.I.; YEVLAMFIYeva, F.A.;  
YELISEYEV, A.I.; ZHAVORONKOV, N.A.; ZHARKOV, S.A.;  
KIR'YANOV, I.A.; KRAYNOV, L.A.; KUSTOV, K.L.; LBOV, F.A.;  
LIPATOV, N.A.; LIPOVETSKIY, I.A.; MALYUGIN, V.N.; MARINOV,  
N.N.[deceased]; MIKHAYLOV, A.N.; POTAPOVA, Ye.D.;  
TRUKHMANOV, G.A.; UKHIN, V.A.; FILIPPOV, V.A.; CHEBURASHKIN,  
A.M.; SHKOTOV, A.T.; GARANINA, L.F., kand. fil. nauk

[The city of Gorkiy; a guidebook] Gorod Gor'kii, Volgo-  
Viatskoe knizhnoe izd-vo, 1964. 374 p. (MIRA 17:12)

*J.S.*  
ZHAVORONKOV, N. I., CAND BIO SCI, "REFLEX INTERDEPENDENCY  
OF THE MOTOR FUNCTION OF VARIOUS SECTIONS OF THE GASTROIN-  
TESTINAL TRACT IN SHEEP." MOSCOW, 1961. (ALL-UNION INST  
OF EXPERIMENTAL VETERINARY SCI OF THE ALL-UNION ORDER OF LE-  
NIN ACADEMY OF AGR SCIENCES IMENI V. I. LENIN). (KL-DV,  
11-61, 214).

-81-

MALYUSOV, V.A.; MALAFEYEV, N.A.; KUZ'MIN, N.G.; ZHAVORONKOV, N.M.;  
Prinimala uchast'ye podgornaya, I.V.

Studying high-speed uniflow rectification in a multistage  
tubular apparatus. Khim. prom. no. 6:458-461 Je '64. (MIRA 18:7)

ZHAVORONKOV, N.M., akademik

Ways of controlling the contamination of air by harmful industrial  
wastes. Vest. AN SSSR 35 no.10:61-65 0 '65.

(MIRA 18:10)

NIRGALYEV, N.A.; ZHAVORONKOV, N.M.

Absorption of carbon dioxide in wetted-wall columns at high speeds  
of gas under the conditions of descending direct flow. Khim.prom.  
(MIRA 13:8)  
L1 no.4250-3 Ap '65.

TOPCHIYEV, Aleksandr Vasil'yevich, akademik [1907-1962]; KARGIN,  
V.A., akademik, otv. red.; SHTERN, V.Ya., doktor khim.  
nauk, otv. red.; SEMENOV, N.N., akademik, red.;  
ZHAVORONKOV, N.M., akademik, red.; NAMETKIN, N.S., red.;  
SHUYKIN, N.I., red.; LIKHTENSTEYN, Ye.S., kand. filolog.  
nauk, red.; KUZNETSOV, V.I., red.

[Selected works; nitration] Izbrannye trudy; nitrovaniye.  
Moskva, Nauka, 1965. 427 p. (MIRA 18:7)

1. Chlen-korrespondent AN SSSR (for Nametkin, Shuykin).

SAFIN, R.Sh.; NIKOLAYEV, A.M.; ZHAVORONKOV, N.M.

Study of the processes of physical absorption and chemisorption  
in a rotary-type apparatus. Trudy KKHTI no.30:341-351 '62.  
(MIRA 16:10)

PONIKAROV, I.I.; NIKOLAYEV, A.M.; ZHAVORONKOV, N.M.

Limit loads and mass transfer in a rotating-disk extractor.  
Trudy KKHTI no.30:352-359 '62. (MIRA 16:10)

SAKODYNSKIY, K.I.; ZHAVORONKOV, N.M.

Basic trends in the development of the methods of separation of  
stable isotopes. Zhur. prikl. khim. 36 no.12:2564-2579 D'63.  
(MIRA 17:2)

1. Fiziko-khimicheskiy institut imeni Karpova.

ZHAVORONKOV, N.M., akademik

"Big chemistry." Priroda 53 no.1:3-10 '64.

(MIRA 17:2)

SAKODYNSKIY, K.I.; BABKOV, S.I.; ZHAVORONKOV, N.M. (Moscow)

Isotopic hydrogen exchange between water and thiols. Zhur.fiz.khim.  
36 no.10:2169-2175 O '62. (MIRA 17:4)

1. Fiziko-khimicheskiy institut imeni Karpova, Moskva.

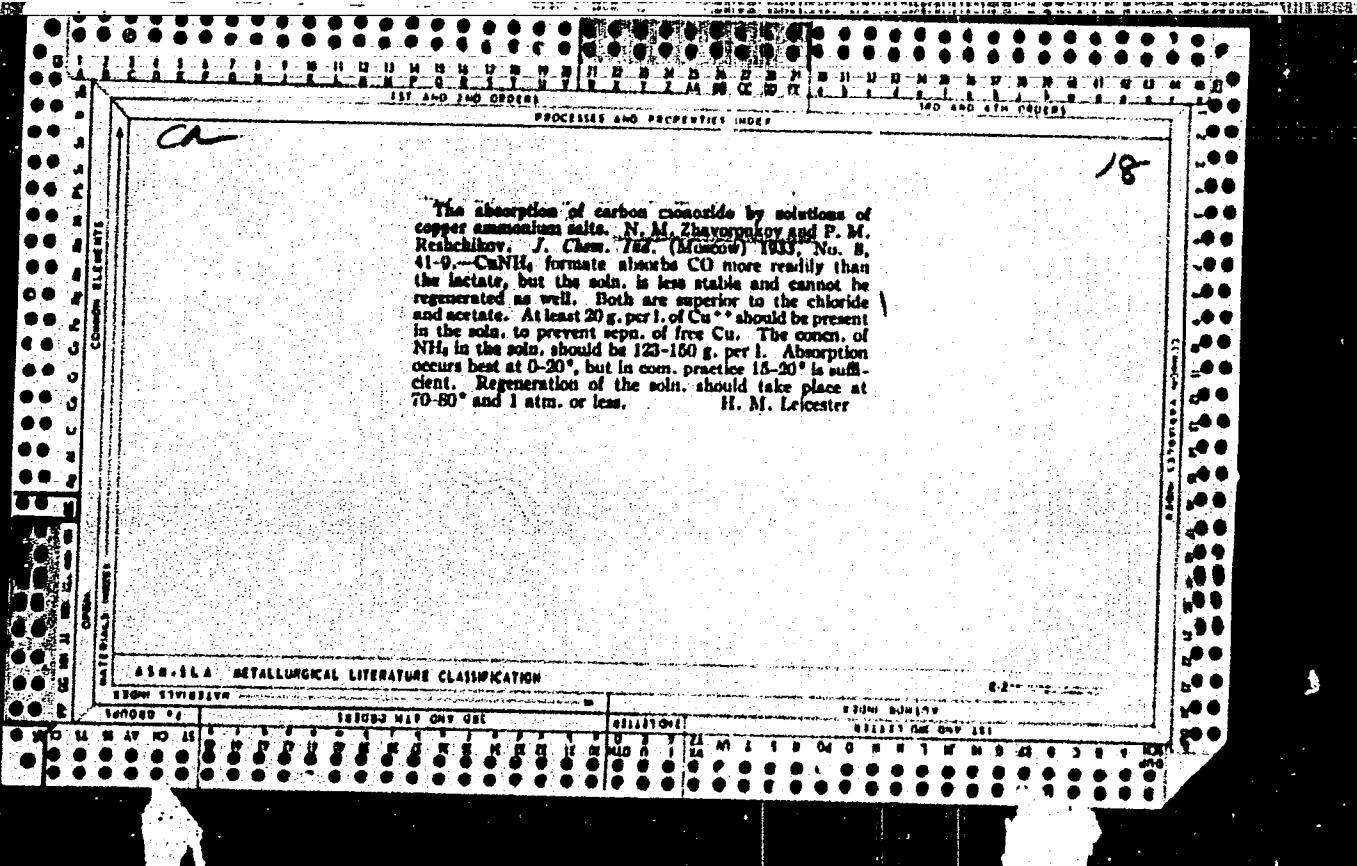
GIL'DENBLAT, I.A.; GUROVA, N.M.; ZHAVORONKOV, N.M.; ZAKGEYM, A.Yu.;  
RAMM, V.M.

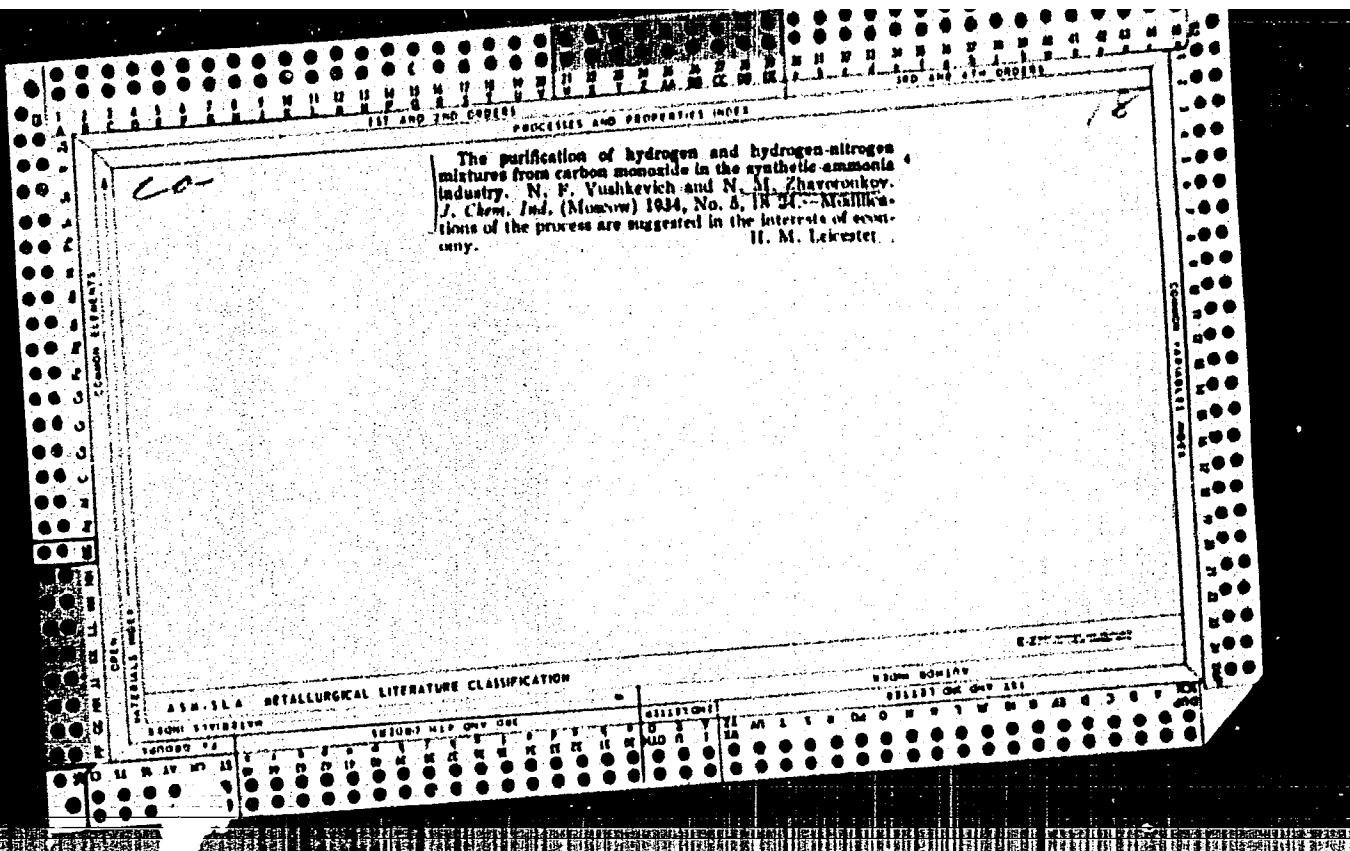
Effect of the height of packing layer and of the method of  
reflux distribution on the effectiveness of absorption in  
packed columns. Khim. prom. no.5:362-366 My '63.

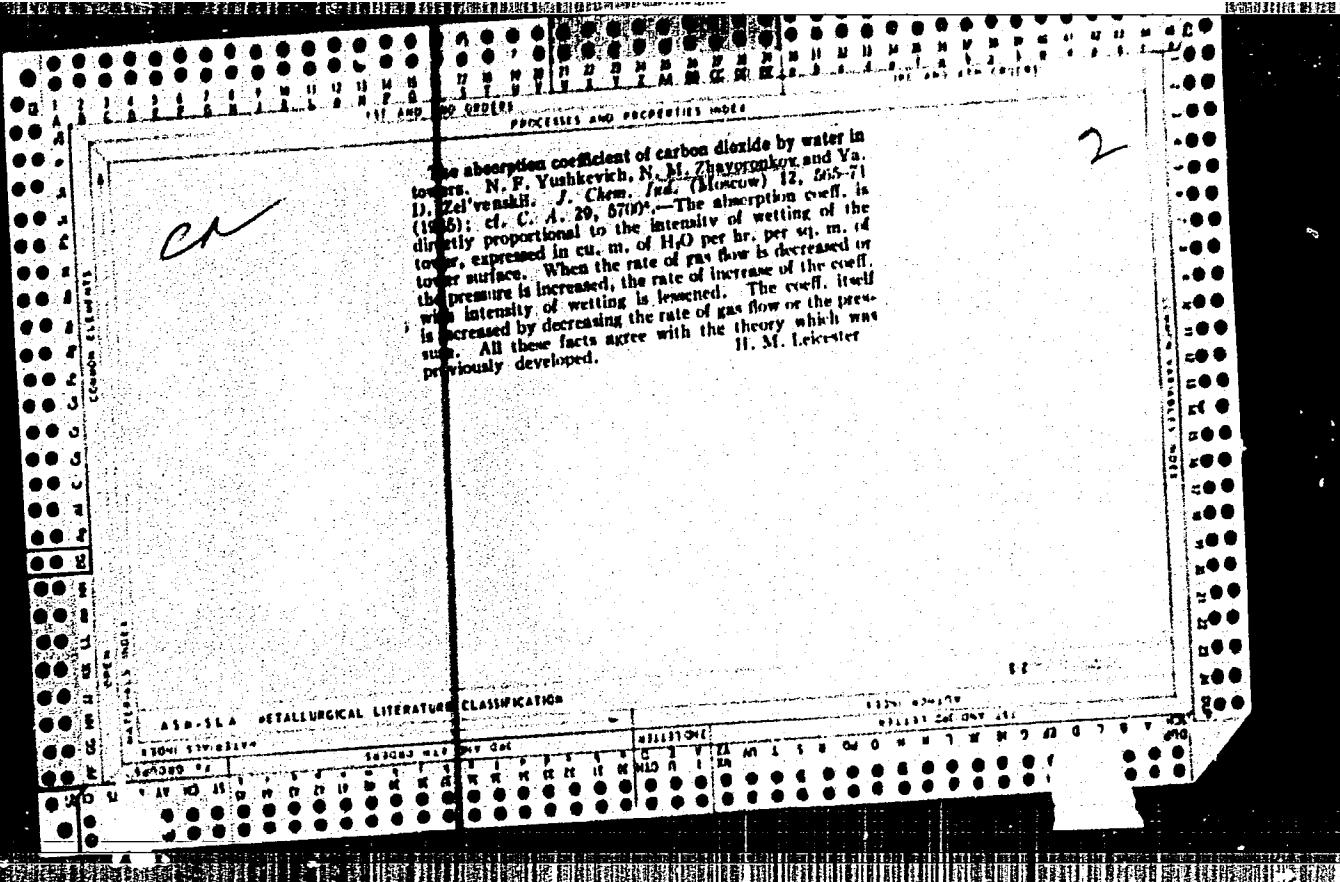
(MIRA 16:8)

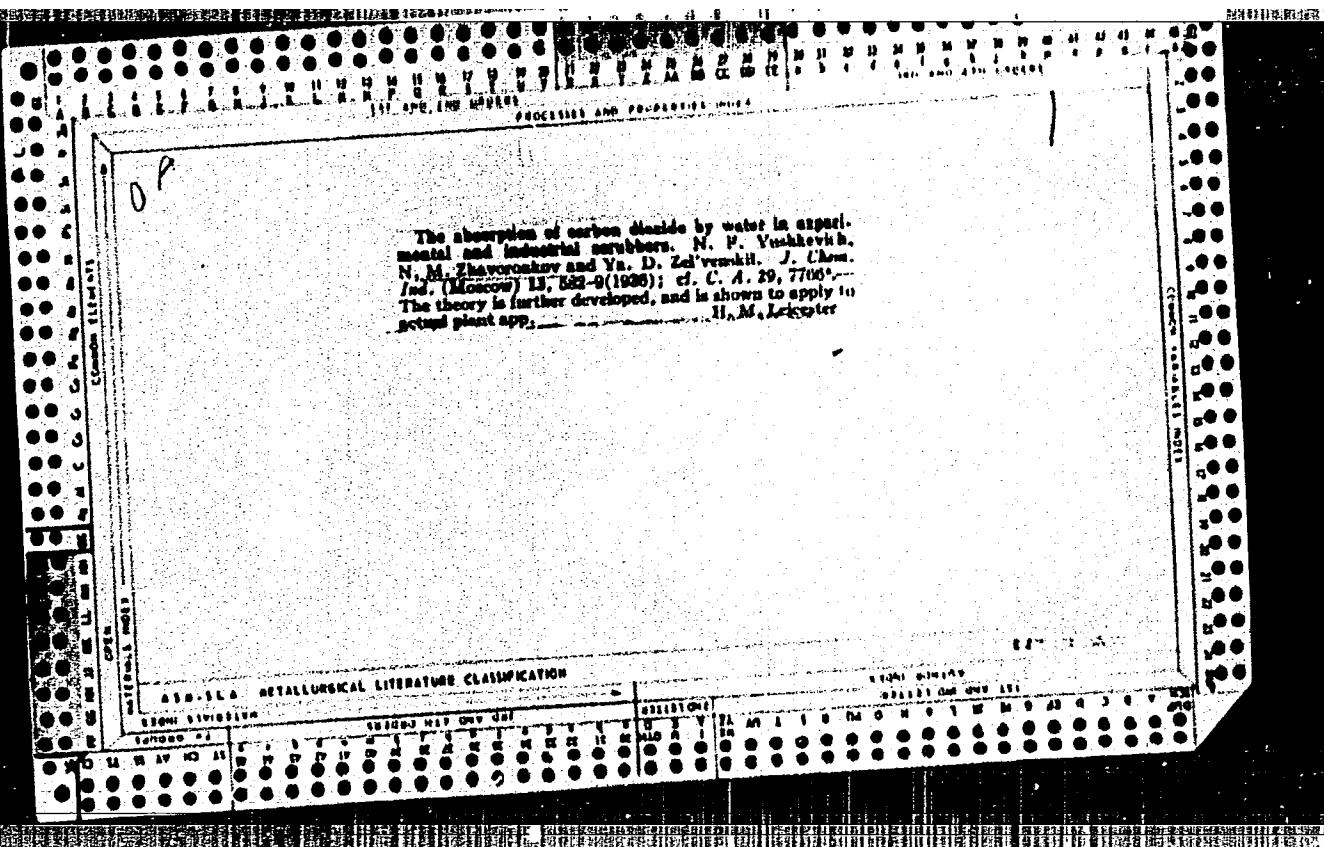
SOKOLOV, N.M.; HAKHAPETYAN, L.A.; FOMICHEV, A.V.; LIVSHITS, S.Ya.;  
CHIRTSOV, V.I.; KASIMOV, R.G.; LUKINA, M.Yu.; ZHAVORONKOV, N.M.

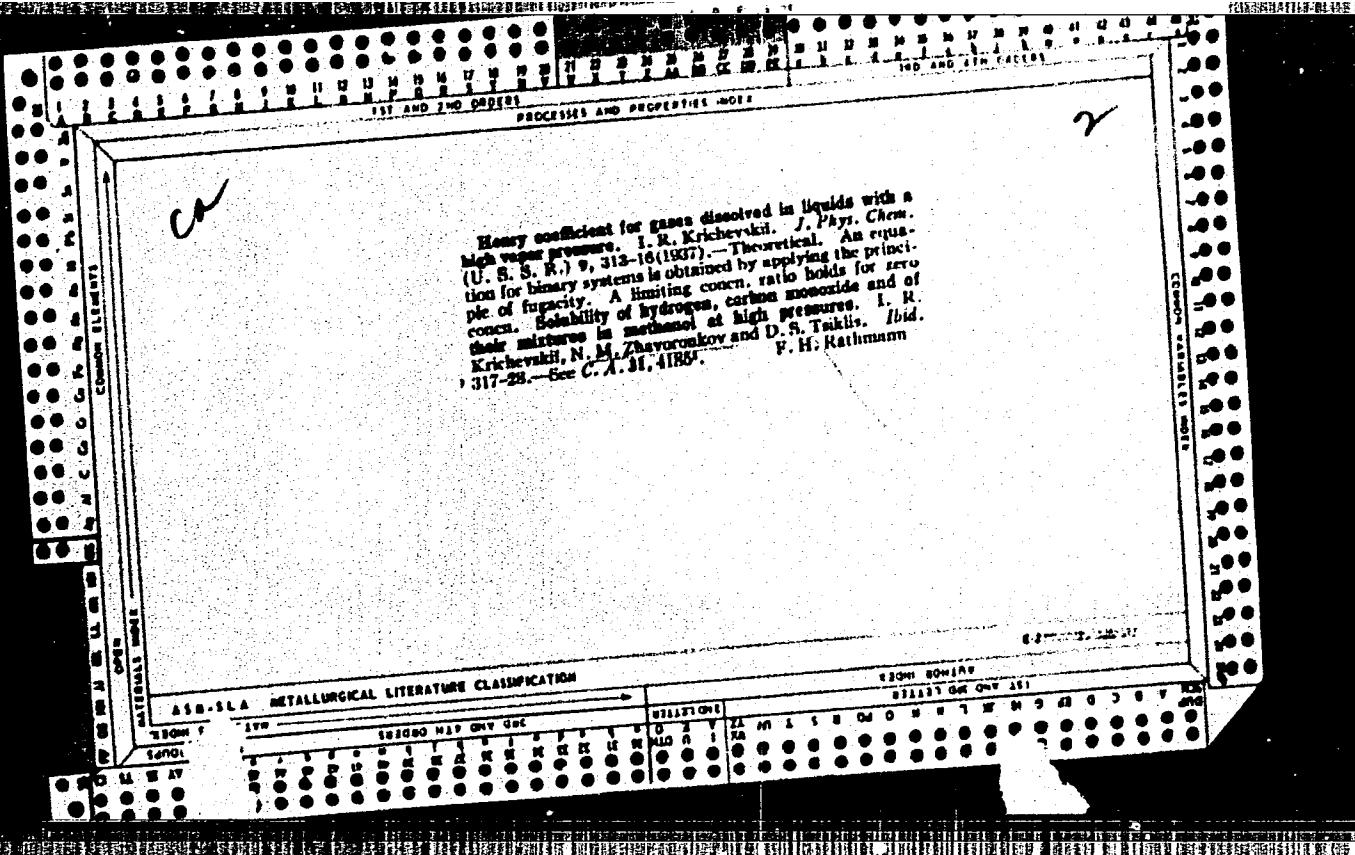
Experimental industrial production of pharmacopeial cyclopropane.  
Khim. prom. 42 no.9:662-663 S '65. (MIRA 18:9)

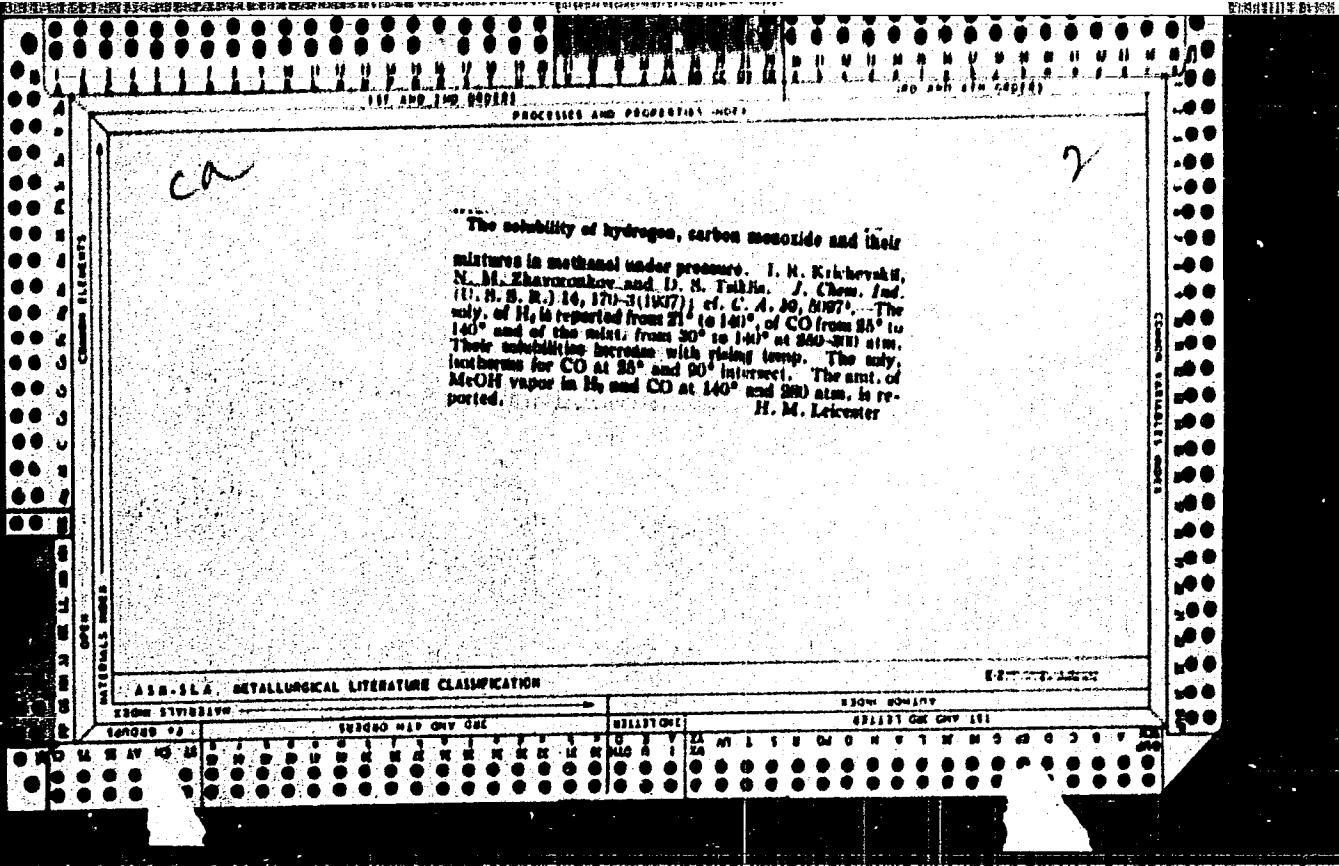












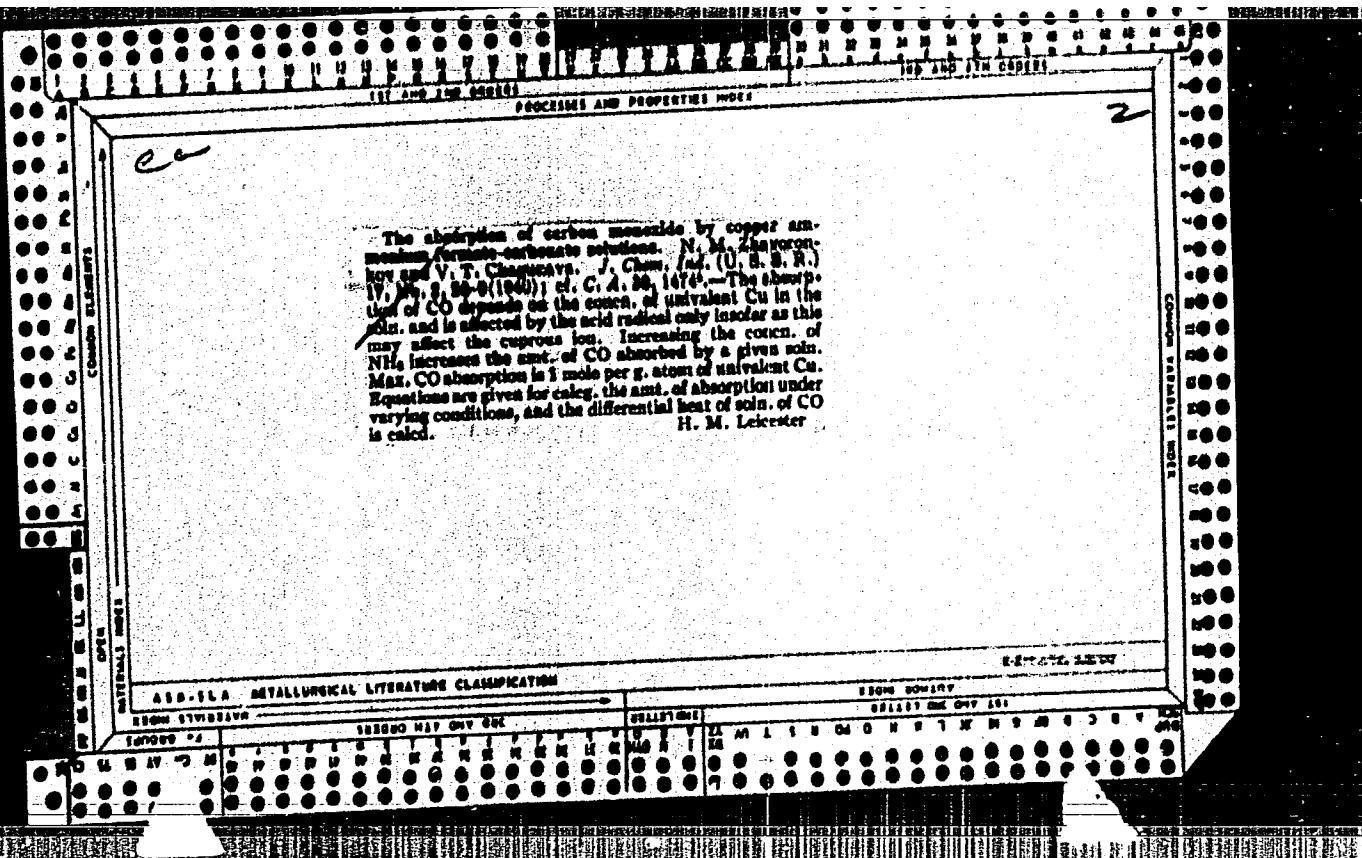
The partial pressure of ammonia, carbon dioxide and water over copper ammonium solutions. N. M. Leicester, J. Chem. Ind. (U. S. S. R.) 16, No. 10, 35-77 (1939). Partial pressures are deduced from 20 to 50° over solns. of Cu NH<sub>3</sub> formed. Satn. of the solns. with CO at lower temps. has almost no effect on the partial pressures. At the higher temps., the total pressure is almost unchanged, but the partial pressure of NH<sub>3</sub> is lower and that of CO<sub>2</sub> is higher than over solns. contg. no CO. Calcns. of the differential heat of soln. give the following values: for NH<sub>3</sub>, 5850 cal./mole in solns. contg. 125-75 g./l., for CO<sub>2</sub>, 16,000 cal./mole in solns. contg. 6.6-8.0 g./l., and for H<sub>2</sub>O, 11,900 cal./mole in solns. contg. 720-813 g./l.

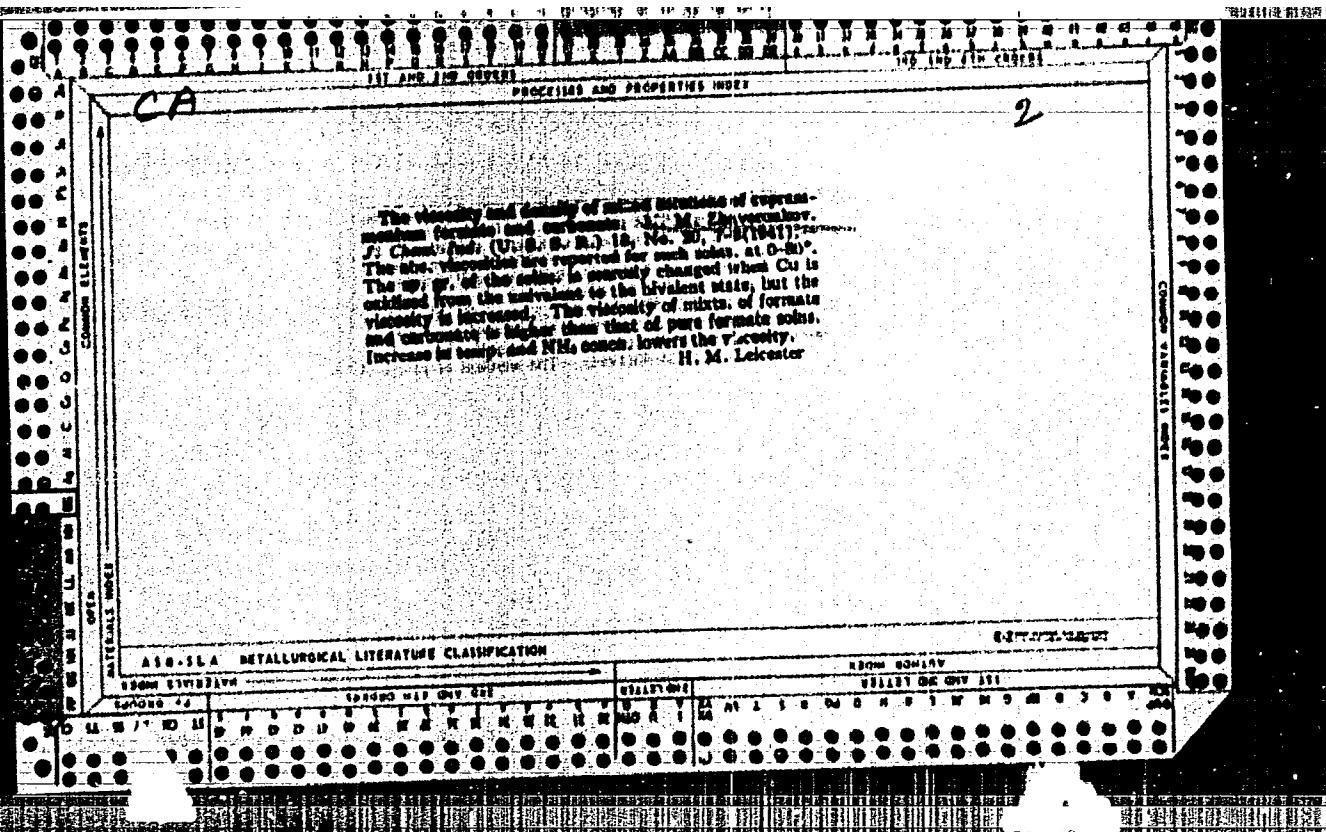
W.M. Lancaster

APPROVED FOR RELEASE: 07/19/2001

CIA-RDP86-00513R002064610011-0"

1ST AND 2ND COLUMNS										3RD AND 4TH COLUMNS																													
PROCESSES AND PROPERTIES INDEX																																							
<p><i>Cal</i></p> <p>Purification of converter gas from CO by absorption with copper-ammonium solutions. N. M. Zhevorochny, <i>Tretyj Mezh. Khim.-Tekh. Inst. Mysore</i> 1960, No. 6, 31-47; <i>Khim. Referat.</i> Zhur., 4, No. 9, 96 (1941).—"Converter gas" is the product of the reaction <math>\text{CO} + \text{H}_2 = \text{CO}_2 + \text{H}_2</math>. The solv. of CO in <math>\text{NH}_3</math> solns. of <math>\text{Cu}(\text{CHO})_2</math> and of <math>\text{CuCO}_3</math> solns. obeys the equation <math>V_{\text{CO}} = V_{\text{max}} \cdot (\frac{P_{\text{CO}}}{P_{\text{CO}} + (1 + \frac{V_{\text{CO}}}{V_{\text{max}}})})</math>, where <math>V_{\text{CO}}</math> and <math>V_{\text{max}}</math> are the vol. and the max. possible vol. of CO absorbed by a unit vol., resp., <math>a</math> is the temp. coeff., and <math>P_{\text{CO}}</math> the partial pressure of CO. The solv. of CO depends on the concn. of Cu in the soln. and approaches at all temps. studied the ratio 1 mol. of CO to 1 g.-atom of Cu. This indicates the existence of a chem. compd. of a <math>\text{Cu}-\text{NH}_3</math> complex with CO whose compn. does not depend upon temp. For absorption of CO from this gas by ammoniacal Cu soln., the optimum concn. of <math>\text{NH}_3</math> is 160-60 g./l., the soln. should contain 2 atoms of Cu for each 5.0-0.5 mols. of <math>\text{NH}_3</math> and for each 2 mols. of <math>\text{CO}</math>. The content of <math>\text{Cu}^+ + \text{Cu}^{2+}</math> in the soln. is 130-8 g./l., and that of <math>\text{Cu}^{2+}</math> is 15-30 g./l. The rate of reduction of <math>\text{Cu}^{2+}</math> to <math>\text{Cu}^+</math> at 60-70° by CO was studied and the differential heats of soln. of CO were calc'd. The exptl. data are presented in diagrams and tables. W. R. Hens</p>																																							
ASD-SEA RETALLURGICAL LITERATURE CLASSIFICATION																																							
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**CA**

Theoretical resistance offered by filling bodies to irrigated scrubbers and the limit to which a scrubber can be loaded with gas and liquid. N. M. Zabotinov. Khim.-Tekhnika Prom., 1944, No. 2/3, 12-19.—Rigids, in a scrubber 303 mm. in diam. showed that in countercurrent flow the resistance offered by wet filling bodies even if there is no circulating liquid is always greater than that by dry filling bodies. This resistance increases with the rate of irrigation. The effect of the rate of irrigation on the resistance is greater the smaller the filling bodies. The increment in the resistance decreases with increasing rates of irrigation. At relatively low rates of irrigation, the pressure drop as a function of the gas velocity up to a certain critical value is a straight line when plotted on a double-log paper. At this critical value of gas velocity the curve makes a sharp bend to the left. At this point the resistance becomes proportional to the square of the gas velocity. With further increase in gas velocity there is a 2nd critical point, and the resistance increases still faster, until at very high gas velocities the function becomes almost a vertical line. At this point the working of the scrubber becomes irregular, and the liquid hangs back and even can be thrown out of the scrubber; the 2nd, the "dooding" point. The resistance increases with the gas d. and with the d. and viscosity of the liquid. Up to a kinematic viscosity of 70, the relation between the pressure drop of the gas and the viscosity of the irrigating liquid is given by  $\Delta P' = \Delta P_{\text{water}} \cdot (\eta/\eta_{\text{water}})^{1.5}$ , where  $\Delta P'$  is the pressure drop of the gas in mm. of water as the gas moves through packing irrigated by any liquid,  $\Delta P_{\text{water}}$  is the pressure drop in mm. of water as the gas moves through

packing irrigated by  $\text{H}_2\text{O}$ , and  $\eta$  is the coeff. of kinematic viscosity of the irrigating liquid. As the kinematic viscosity of the liquid exceeds 70, this relation becomes more complex. At small gas velocities and high rates of irrigation, passing the liquid and the gas concurrently cuts pressure drop of the gas in half. At the "flooding" point  $(L/G)\sqrt{\eta_1/\eta_2} = \varphi(T') = \varphi((W_0 S_0 / P_0^2 T_0) \eta^{0.5})$ , where  $L$  is the velocity of the liquid in kg. per sq. m. hr. (load of liquid or irrigation density),  $G$  is the same for the gas,  $\eta_1$  is sp. wt. of gas in kg. per cu. m.,  $\eta_2$  is the same for the liquid,  $\varphi$  is the resistance coeff. of dry filling bodies,  $S$  is the surface area of the filling bodies in sq. m. per cu. m.,  $W_0$  is the av. gas velocity in m. per sec. through the entire cross section of the scrubber,  $\eta$  is the relative viscosity of the irrigating liquid,  $T_0$  is the av. free cross section of the packing in sq. m. per sq. m.,  $g$  is acceleration due to gravity.

M. Horsch

ASA-SLA - METALLURGICAL LITERATURE CLASSIFICATION

1940-1949

1940-1949

BROWNSVILLE  
SERIALS

E-27-1962-32002

ZHAVORONKOV, N. M.

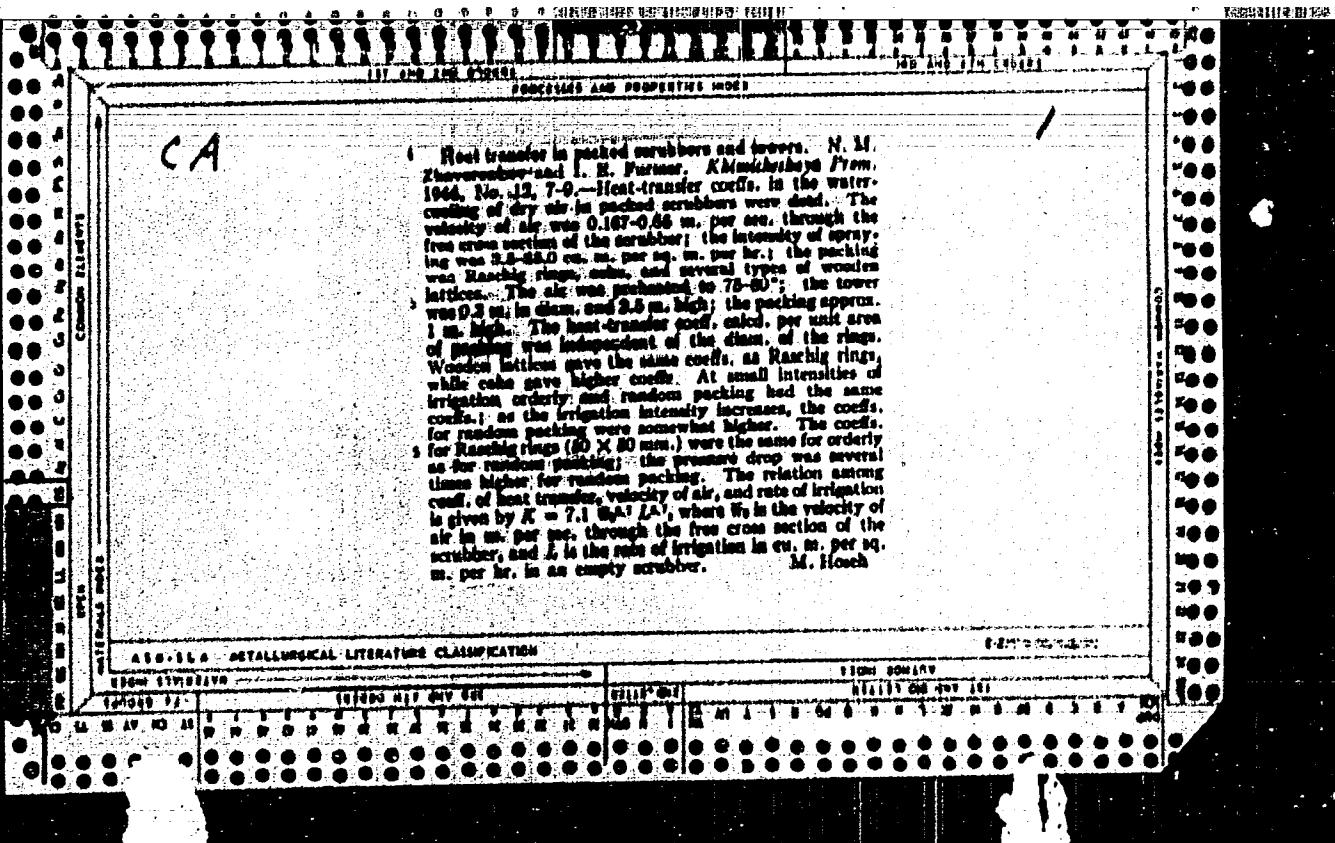
CH

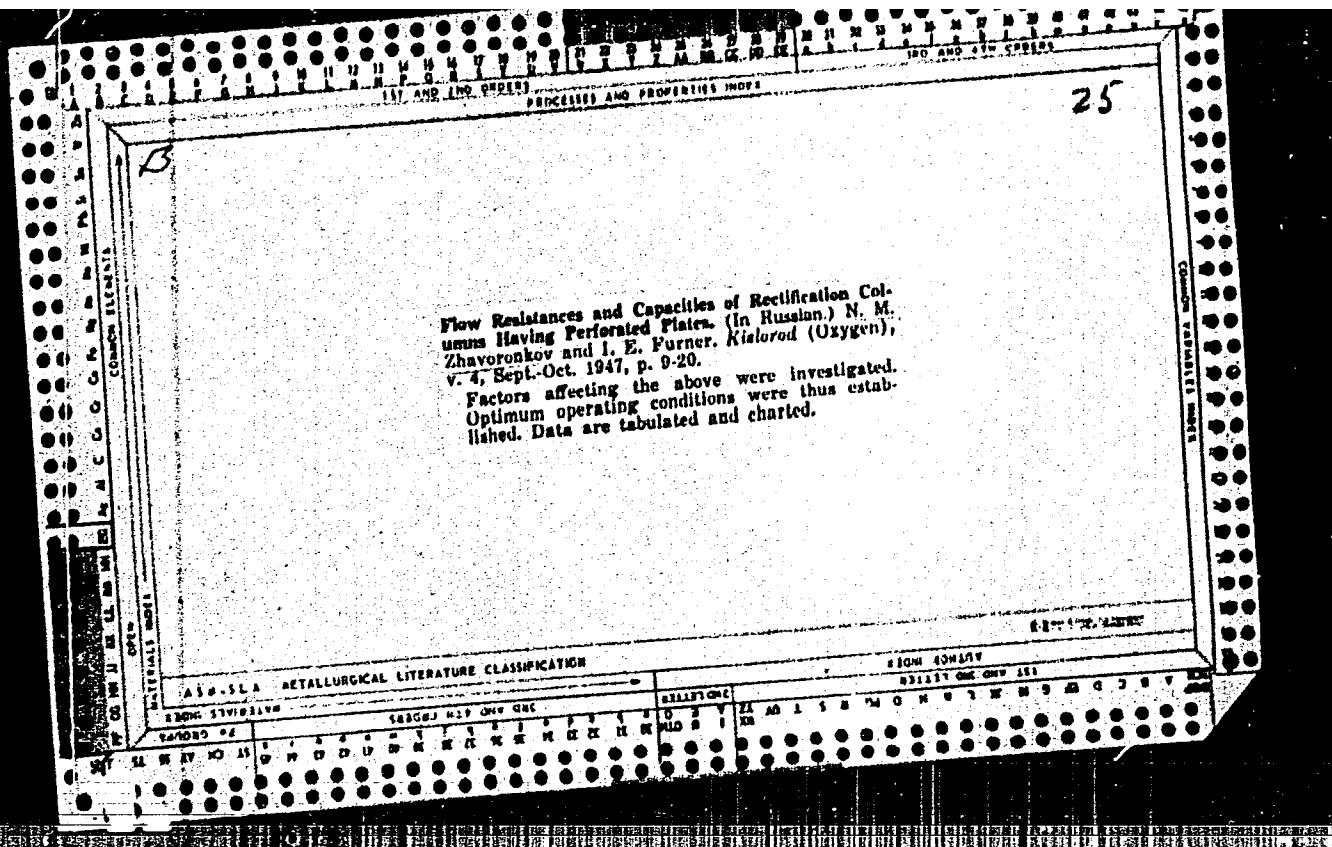
17

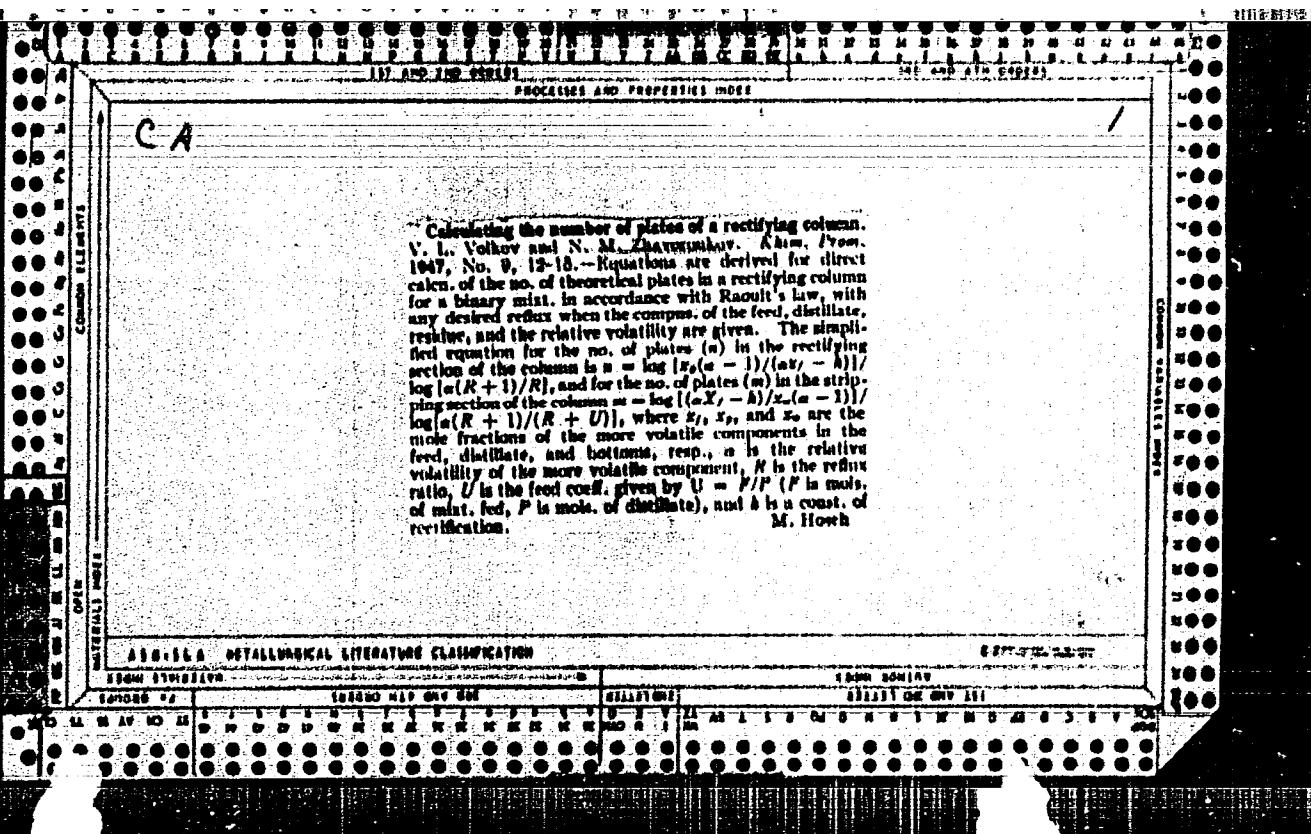
Prospects for the use of oxygen in the production of  
nitric acid. N. M. Zhavoronkov (Moscow, Mendeleev  
Chem. Technol. Inst.). Aiznatod 1944, No. 4, 27-38.

By using in the absorption step air contg. 27-29% of O and maintaining the  $\text{NH}_3$  concn. in the  $\text{NH}_3$ -air mixt. at 12%, the conversion of  $\text{NH}_3$  in the contact unit increased from 93 to 95-97% and the concn. of the acid produced rose from 61-63 to 69-80%. A saving of 20% of energy was effected. The entering mixt. had a temp. of 80° and the temp. on the contact mass was 870-80°. The N oxide content in the exhaust gases was greatly reduced; at max. output it did not exceed 0.3%. The O content in the exhaust gases was 5-5.5%. For the production of strong  $\text{HNO}_3$ , the most effective method is considered oxidation of  $\text{NH}_3$  with air, combined with direct synthesis of concd.  $\text{HNO}_3$  and absorption of N oxides in nitro-oilatum.

M. Hosch







VOLKOV,V.L., kandidat tekhnicheskikh nauk; ZHAVORONKOV,N.M., professor,  
doktor tekhnicheskikh nauk

Calculations pertaining to rectification plate towers. Khim.prom.  
no.9:264-267 S'47. (MIRA 8:12)

1. Fiziko-khimicheskiy institut imeni Karpova  
(Distillation apparatus)

PA 53T16

USSR/Chemistry - Academy of Sciences

Dec 1947

"Physical Chemical Institute imeni L. Ya. Karpov,"

N. M. Zhavoronkov, Dir, Inst, 5 pp

"Khim Prom" No 12

One of first scientific chemical institutions, Central Chemical Laboratory VSNKh is now Physical Chemical Institute imeni L. Ya. Karpov. Briefly describes development of institute, its basic scientific attainments, and staff. Present task is improvement of personnel serving in scientific institutions of USSR.

LC

53T16

USSR/Chemistry - Particles, Packing of  
Chemistry - Granular Substances

Mar 49

"The Hydraulic Resistance and Packing Density of a Layer of Granulated Material," N. M. Zhavoronkov,  
M. S. Aerov, N. N. Umnik, Physicochem Inst imeni  
L. Ya. Karkov, Moscow, 19 pp

"Zhur Fiz Khim" Vol XXIII, No 3

Suggests and experimentally checks dependence of density of packed grains in a layer on ratio of diameters of container and grains. Measures hydraulic

resistance of a layer of metal balls and catalyst  
pellets of various sizes in tubes of various diameters.

28/49T9

USSR/Chemistry - Particles, Packing  
of (Contd)

Mar 49

in the range  $R_d = 2 - 800$ . Offers equation linking coefficient of friction in granular layer with Reynolds criteria. Calculates coefficient of resistance of balls and cylinders in layer and cluster. Shows that ratio of speed of a gas in granular layer in center of layer and near wall of tube is approximately 1:1 for metal balls. Submitted 24 Mar 48.

28/49T9

ZHAVORONKOV, N. M.

Nikolay Mikhaylovich

ZHAVORONKOV, N. M.

Istochniki tekhnicheskogo svyazannogo azota (Sources of technically fixed nitrogen.)  
Moskva, "Pravda", 1951. 30 p. tables. Contains bibliography. Cataloged from abstract.  
Lecture deals with native resources of technologically-combined nitrogen and industrial  
methods of fixation of nitrogen of the air, as well as the solution of problems regarding  
combined nitrogen in USSR.

N/5

713.2

.Z6

FD-966

USSR/Chemistry - Nitric acid

Card 1/1

Pub. 50 - 9/19

Authors : Zhavoronkov, N. M., Corr Mem Acad Sci USSR; Babkov, S. I. Martynov,  
Yu. M., Chernykh, G. N.

Title : Investigation of the Absorption of Nitrogen Oxides with alkaline solu-  
tions in columns having a regularly distributed filling

Periodical : Khim. prom., No 7, 419-423 (35-39), Oct-Nov 1954

Abstract : Outline experimentally established relationships which can be used in  
the design of industrial equipment for the absorption of nitrogen ox-  
ides at a high linear velocity of the gases containing these oxides.  
Describes the design of a horizontal absorber for that purpose. Four  
references, all USSR, 3 since 1940.

Institutions: Physico-Chemical Institute imeni L. Ya. Karpov and Moscow Chemico-  
Technological Institute imeni D. I. Mendeleyev

VOL'FKOVICH, S.I., akademik, redaktor; ZHAVORONKOV, N.M., redaktor; POSPELOV, I.A., st. nauchnyy sotrudnik, redaktor; BAROV, N.M., redaktor; SMIRNOVA, A.V., tekhnicheskij redaktor

[Methods and processes of chemical technology] Metody i protsesсы khimicheskoi tekhnologii. Moskva, Izd-vo Akademii nauk SSSR, No.1 1955. 234 p.

(MIRA 8:7)

1. Akademiya nauk SSSR. Otdeleniye khimicheskikh nauk. 2. Chlen-korrespondent AN SSSR (for Zhavoronkov).  
(Chemistry, Technical)

16-641. Separation of mixtures by high vacuum distillation. V. M. Zhdanov, A. A. Malyshev and N. N. Umnik. *Izv. Akad. Nauk SSSR, Tekhnicheskaya Kemiya*, 1964, No. 5, p. 100.

16-642. Electrolytic. The basic problems of absorption and catalysis in moving and suspended layers. O. M. Todes. *Zhur. Tekhnicheskoy Khimii*, 1964, No. 100. A review on fluidization and reactivity in suspension and discussion of heat and heat transfer problems. 42 references. Methods of intensification of liquid and gas interaction. M. P. Pozin. *Izv. Akad. Nauk SSSR, Tekhnicheskaya Kemiya*, 1964, No. 100. 3 references. The application of electric discharges to chemical technology processes. I. N. Andreyev. *Izv. Akad. Nauk SSSR, Tekhnicheskaya Kemiya*, 1964, No. 100. The theory of application of DCE discharge to gas reactions is discussed, and the industrial production of gels in Cetane and H<sub>2</sub>O<sub>2</sub> C<sub>2</sub>H<sub>5</sub>OH mixtures is described. 104 references. The application of isotopes to the investigation and control of chemical technology processes. G. P. Mikheev. *Izv. Akad. Nauk SSSR, Tekhnicheskaya Kemiya*, 1964, No. 100.

FD-1741 a

ZHAVORONKOV, N. M.  
USSR/Chemistry / Gas analysis, Nitrogen oxides

Card 1/1 : Pub. 50-18/18

Authors : Zhavoronkov, N. M., Babkov, S. I., Martynov, Yu. M.

Title : Separate determination of nitrogen dioxide and nitrogen oxide in gases  
with the aid of potassium iodide solutions

Periodical : Khim. prom., No 1, 63, Jan-Feb 1955

Abstract : The authors make additional comments on a procedure described by them  
in 'Khimicheskaya Promyshlennost', No 7, 1954.

ZHAVORONKOV, N.M.  
USSR/Chemistry - Chemical industry of Asia

FD-2651

Card 1/1 Pub. 50-16/18

Author : Zhavoronkov, N. M., Corr Mem Acad Sci USSR

Title : The chemical industry of Japan and of the countries of Asia and  
the Far East ("Foreign developments")

Periodical : Khim. prom. No 3, 171-178, Apr-May 1955

Abstract : Presents statistical and technical information on the chemical  
industries of Japan, India, and the Phillipines on the basic of  
data collected by the Soviet delegation attending the 4th Session  
of the Subcommittee on Electrical Energy, United Nations Economic  
Commission for Asia and the Far East, held at Tokio in October  
1954. Seven references, all non-USSR.

ZHAVORONKOV, N. M.

USSR/Chemistry - Heavy nitrogen

FD-3358

Card 1/1

Pub. 50 - 2/20

Authors

: Babkov, S. I.; Zhavoronkov, N. M.

Title

: An industrial method for the production of heavy nitrogen concentrates

Periodical

: Khim. prom. No 7, 388-392, Oct-Nov 1955

Abstract

: On the basis of the experimental work described, found that the use of 2 horizontal distillation columns in addition to 2 vertical columns results in improved efficiency when heavy nitrogen is enriched by exchanging ammonia with the ammonium ion of aqueous ammonium nitrate solutions. Plant scale equipment for this purpose and the design of the horizontal column, which is provided with rotating plates, are described in detail. Four references, all non-USSR.

Institution : --

Submitted : --

ZHAVORONKOV, N. M.

✓ Mass transfer in the film rectification process. I. With streamline flow of the vapour. II. With turbulent flow. V. A. Malyusov  
N. N. Umnik and N. M. Zhavoronkov (Dokl Akad Nauk SSSR  
1955, 106, 770-781; 1957, 110, 11-14). The rectification column  
with wetted walls, the authors derive an equation for the mass transfer coefficient  
in which  $k$  is the column height per unit of diameter,  $U$  is the gas velocity,  
 $v$  is the vapour velocity,  $d$  the column diameter, and  $\alpha$  is the mass transfer coefficient. This equation is equivalent to  $k = 0.088 \cdot \frac{U}{v} \cdot \frac{\rho}{\rho_g} \cdot \frac{Re}{Pr}$ .  
Re is the Reynolds no. and Pr is the Prandtl no. The equation was tested for several mixtures with a high relative volatility and showed  
to hold for column diameters in the range 3-22 mm and Reynolds  
no between 200 and 800-1000. The result indicates that in all  
cases the resistance to mass transfer is in the gas phase.  
II. At high vapour velocities (Reynolds no. 1000-15,000) the  
above results and those of other workers can be represented with  
fair accuracy by an equation  $k = 11 \cdot 10^{-4} \cdot 10^{0.3} \cdot 10^{0.3}$ . The  
systems tested were CH<sub>4</sub>-CO<sub>2</sub>, C<sub>2</sub>H<sub>6</sub>-CH<sub>3</sub>Cl, and H<sub>2</sub>-Kerogen  
and EtOH-H<sub>2</sub>O.